#### **Assessment Report for Assessment of Outcomes 2011**

### **Medical Imaging SAC**

1. Describe changes that have been implemented towards improving student's attainment of outcomes that resulted from outcome assessments carried out in the previous academic year:

Outcome results for 2009-2010 did not indicate any areas where students, as a whole, failed to meet the College and/or Program goals. However, outcomes from **2008-2009** assessment s resulted in the SAC agreeing on the following changes for **2009-2010** courses:

### RAD 203 – Applied Radiographic Topics

PCC CO1, Program Goal 1, Course Outcome 2 – <u>Communication</u>
 Additional information on communication with diverse populations, clinical personnel and patient's family members was added to this course following input from clinical affiliates. Affiliate radiography department managers asked their clinical instructors to initiate a discussion about more instruction on communication skills at our Advisory Committee meetings. Hospitals are required to have employees knowledgeable on age specific needs and requirements as well as multicultural issues. Although the Program had been including these topics in courses, it was felt that additional learning experiences during the second year of the Program would reinforce these concepts. All of the added information was directed toward improved and appropriate communication in the clinical setting.

Course requirements included group discussions, projects and homework assignments. Students also were required to do oral presentations.

### RAD 105 - Patient Care in Radiology

PCC CO3, Program Goal 3- <u>Critical Thinking and Problem Solving</u>
 Both clinical instructors and managers indicated on assessment tools that some students were not as adept as they should be in critical thinking situations. This was apparent in situations that involved trauma patients or patients in compromised conditions requiring a change in protocols and positioning techniques. Additional lab experiences were involved that challenged the students to work through "unusual" situations. The Nursing Program's simulation lab was also used to evaluate the student's ability to assess a patient, with changing vital signs and conditions, while performing radiographic procedures.

In summary, the faculty addressed the comments made by industry that seemed to be shortcomings of certain graduates. These changes became part of the 2010 Program Outcomes Assessment.

### 2. Identify the outcomes assessed this year and describe methods used.

The Program's Outcomes are demonstrated in the following table:

CTE Assessment Plan Medical Imaging Department AAS: Radiography

Outcome	Map to Core Outcome	Setting/Method	Benchmark	Outcomes
Uses effective written and oral communication skills in educational and clinical settings	CO 1 - Communication	Classroom: RAD 209 Advanced Radiographic Procedures – 2 <sup>nd</sup> Year Course ( 32 students)  Writing Skills: Method/s: Student Portfolio Rubric used for grading consistency on student papers. Students submit papers on topics approved by instructor and which pertain to unit topics.	85% of students will score ≥ 7 on a 9 point scale on written assignment.	100% of students (32) received ≥ 8 on a 9 point scale – average was 8.9.
		Clinical: Hospital Affiliates  Oral Skills: Method/s: End of Term Clinical Assessment from Clinical Instructors (8 <sup>th</sup> term)  Clinical instructors will complete their final assessment of student according to Program and professional standards. Criteria is quantified and standardized for consistency from all clinical sites. A standard Program form is used by all sites.	90% of students will be ranked at ≥ 4 on a 5 point scale used for evaluating behavioral and performance skills	100% of CIICs ranked graduates at > 4. Class mean was 4.8. High scores were 5.0 and lowest score was 4.5.
Demonstrate problems solving skills in the clinical setting	CO 3 – Critical Thinking	Clinical Hospital Affiliates  Method: Employer Survey		
		Employer Survey: Managers will complete Program graduate survey answering questions that pertain to critical thinking skills in patient care and radiographic procedures. These skills are vital in performing non-routine procedures or challenging patient conditions.	90% of respondents will rank graduates ≥ 3 on a 4 point scale, used for evaluating behavioral and performance skills.	100% of employers ranked graduates at >3 on a 4 point scale: 50% received 3's and 50% received 4's.

Successful completion of national certification examination (ARRT)	CO5 –Professional Competence	ARRT Examination Pass Rate  Students who successfully complete two-year program will sit for national certification examination. Upon successful completion of this exam (at least a score of 75%), they will be certified in radiologic technology.	85% of graduates will score 75% or higher on first attempt	100% of the 2010 graduates passed the national certification examination on first attempt, the class average score was 91.4%. The mean score was 9.1 on a 10 point scale. The national mean was 8.5.
The graduate provide s appropriate care that ensures the safety, comfort and on-going assessment/response to the patient condition	CO6 – Self-Reflection	Program will send graduates a survey 6 months post-graduation that poses questions of self-reflection. Questions pertain to their professional skills, safety and patient assessment, procedure performance, communication skills with staff and patients. Additional questions pertain to evaluating Programs success in teaching the skills required of an entry-level technologist.	Respondents will rank themselves and the Program at <u>&gt;</u> 3 on 4 point scale.	Teaching Communication Skills: 100% ranked Program ≥ 3 (4 = 69%, 3 = 31%)  Entry Level Prep: 100% ranked Program as ≥3 (4 = 92%, 3 = 8%)
Identifies and understands barriers and misunderstandings associated with different cultures/ethnic groups and how these might affect competent patient care.	CO4 - Cultural Awareness	Classroom/Clinical Setting  Students will complete modules, and group exercises in RAD 100, 106. Not all activities are for grades.  In RAD 203 students must submit individual papers written on the subject of diversity and patient care. A rubric was used to determine points assessed.	Students must achieve > 23out of 30 points possible (75% or above).	100% of students received ≥ 23 points out of 30 possible. Class average was 28.3. High score was 30, low score was 26.
Applies/adheres to radiation protection standards. Maintains safety practices for the community, coworkers and self. Demonstrates adherence to professional ethics and standards.	CO2 – Community and Environmental Responsibility	Students are evaluated each term by clinical instructors using standardize "End of Term "assessment form. Criteria are10/11/2010 based upon program and accreditation standards.  The 5 point scale is used for the skills that are most critical to graduates.	90% of students will be ranked at $\geq$ 4 on a 5 point scale used for evaluating behavioral and performance skills	100% of graduates were ranked ≥ 4 on a 5 point scale. The class norm was 4.8. The lowest score was 4.45, the high was 5.0.

#### a. Methods Used:

As evident in the Outcomes table, numerous methods are used to assess learning and achievement of desired outcomes. Our students must demonstrate both academic and clinical skills that are intertwined and dependent upon each other. Course level outcomes include communication, critical thinking, cultural awareness/competency, ethics and patient care skills. These are also intertwined, as one cannot successfully achieve professional standards in Radiography without all of these skills.

Assessment tools include performance (lab and clinical) procedures, written assignments/papers and oral presentations with rubrics developed to assess specific criteria. Although most students achieve above the benchmark in all areas we assess, there are those who just meet or fail to meet standards and we use the outcomes to assist in counseling and mentoring those individuals.

During 2010 our clinical assessment tool was redesigned following discussions with the Advisory Committee. Each category of the tool used the same lykert point scale and it was felt that certain skills or behaviors should carry more weight. The revised tool has been used for about 14 months and the results reflect a more accurate account of student performance. The new scales and weighted areas have created an easier way to track students with problems at an earlier point in the Program as compared to the form used in the past.

#### b. What Did We Learn:

Although the Radiography Program at PCC is well established and finely tuned, there is always room for improvement. Fortunately, the students selected for each class are high achievers and very motivated to learn and succeed. Because of this, our outcomes rarely demonstrate serious concerns. We feel that our community partners share our standards and pride and work hard at fostering success in our students.

The Radiography Program is a great example of what a community college can offer to a community. Portland Community College has goals and a mission statement that our Program believes in and strives for.

### 3. Identify any changes that should, as a result of this assessment, be implemented towards improving students' attainment of outcomes.

In reviewing the Graduate Survey for the Class of 2010, 4 out of 12 respondents (33%) rated the Program at a 3 on a 4 point scale for how well the Program prepared the student to demonstrate problem-solving skills in regard to radiographic quality, patient condition and equipment use.

Eight respondents rated the Program at a 4. Although a score of 3 is acceptable, the topic is how they feel they were prepared for critical thinking in the clinical setting and radiographers must be able to "think outside of the box" in many situations. Because of this, we have agreed to develop additional scenarios in the laboratory sessions that challenge this skill. This will be measured by using evaluation criteria used in the clinical setting and other laboratory performance simulations.

We have included samples of course rubrics and assessment tools with this Outcomes Assessment report. They can be found on the following pages.

### This rubric is used to assess writing skills – (Core Outcome 1 – Communication)

## Disease Report Rubric

### RAD 209

CATEGORY	4 POINTS	3POINTS	2 POINTS	1 POINTS
Organization	Information is very organized, used logical progression	Information is organized	Information is mostly organized	Information appears to be disorganized
Content	Disease is well described. It includes several supporting details for description and etiology	Disease is described, but not thorough. Only a few supporting details are included	Disease description minimal, only one detail included per area	Disease not well described, has little to do with topic, no supporting details
Substance	It includes several supporting details for diagnosis, prognosis and treatment	Only a few supporting details are included	Description minimal, only one detail included per area	Not well described, has little to do with topic, no supporting details
Paragraph Construction	All paragraphs include introductory sentence, explanations or details and concluding sentence	Most paragraphs include introduction, details and conclusion.	Paragraphs do not always have all sentences required.	Paragraphing structure was not clear and sentences were not typically related.
Diagrams & Illustrations	Neat, accurate and add to understanding of exam	Text does not refer to them, may have too many	Sloppy, do not add to understanding of exam	Do not aid in understanding or are not accurate
Sources	All sources for information and graphics in desired format	Not all information or graphics correctly identified in format	Sources listed, but used incorrect format and not identified in text	Sources poorly documented
Mechanics	No grammatical, spelling or punctuation errors	Almost no grammatical, spelling or punctuation errors	A few grammatical, spelling or punctuation errors	Many grammatical, spelling and punctuation errors

### Report on common pathology for exam

- Description of pathology
- Etiology the cause of the disease, discuss factors involved in the development of the disease.
- Diagnosis identify how the disease is identified, may include physical signs, symptoms, history, lab tests, radiographic procedures.
- Prognosis prediction of outcome of disease.
- Treatment what, if anything, can be done about the disease.
- Note that the rubric has points for graphics or tables in your paper.

Be sure to include references for each of the above: people, books, magazines, web sites, etc.

This is the form used by the Clinical Instructors for students at the end of each term. Their score reflects both their observations and those gleaned from assessments from the staff. This counts toward 40% of their clinical grade each term. (Core Outcomes 1 and 2)

# - PCC End of Term Evaluation

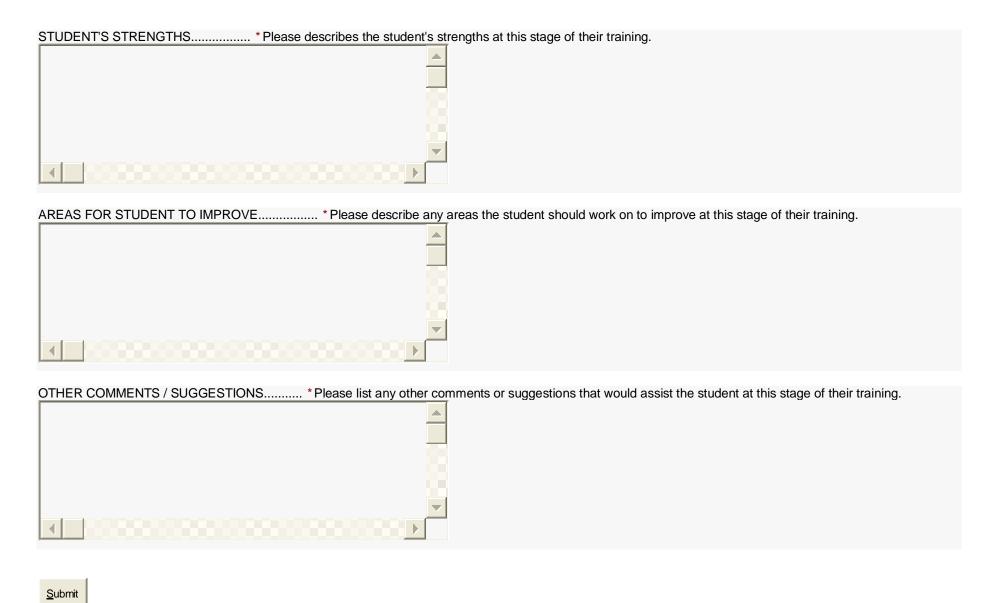
Please consider level of training when completing evaluation.
* Required
Student Last Name * Please enter student's last name
Student First Name *Please enter student's first name
Term * Please select correct term. 1 - RAD 110
Clinical Site * Please select your clinical site.
CIIC Last Name *Please enter your last name
Initiative *Volunteers to perform exams/set up procedures. Stays with exam until completed. Self-directed in learning and improving knowledge of imaging and patient care. Utilizes clinical time to obtain optimal clinical experience. Prepares and cleans up exam rooms.
1 2 3 4
Hesitates or avoids Consistently demonstrates
Patient Care & Assessment * Courteous and empathetic towards all patients and cultures. Establishes good rapport and instills confidence in patients. Follows protocol for patient/exam identification. Maintains patient privacy and confidentiality. Accurately assesses patient's needs and abilities and adapts to accommodate conditions/safety needs and communication barriers. Obtains and records patient history accurately and pertinent to exam.
1 2 3 4
Rarely demonstrates Consistently demonstrates

Procedure & Technical Skills \*Demonstrates knowledge of department/physician routines, equipment and techniques. Maintains proficiency in performing examinations. Evaluates exam order, follows department filming protocols, performs required follow-up duties post exams. Demonstrates speed, accuracy, efficiency

examination and ted	chnical fa	actors on	i second a	allenipi.	
	1	2	3	4	
Rarely demonstrates	•	•	•	•	Consistently demonstrates
					required competencies/o
	1	2	3	4	
Rarely demonstrates	•	•	•	•	Consistently demonstrates
Attitude * Receptive	to sugge	estions, a	and appli	es correc	ctions. Maintains interest a
·	1	2	3	4	
Rarely demonstrates	•	•	•	•	Consistently demonstrates
Dependability * Dun					
	octual to d	rlinical si	ite and co	mnletes	all hours (no more than 1
					all hours (no more than 1 ns and completes tasks.
	assigned	l rotation	, follows	instructio	
Remains/assists in a	assigned  1	2	3	instructio  4	Consistently demonstrates
Remains/assists in a	assigned  1	2	3	instructio  4	ns and completes tasks.
Remains/assists in a	assigned  1  •  * Demon	rotation  2  strates p	3  orofession	instructio  4  •  nal comm	Consistently demonstrates
Remains/assists in Rarely demonstrates  Team Participation  Rarely demonstrates	assigned  1  *Demon  1	strates p	3 orofession 3	anal comm	Consistently demonstrates  consistently demonstrates  consistently demonstrates
Remains/assists in Rarely demonstrates  Team Participation  Rarely demonstrates  Professional & Ethic	assigned  1  * Demon  1  cal Judgr	strates p	a, follows  3  orofession  3  exhibits log	anal comm	Consistently demonstrates
Remains/assists in Rarely demonstrates  Team Participation  Rarely demonstrates  Professional & Ethic	assigned  1  * Demon  1  cal Judgr	strates p	a, follows  3  orofession  3  exhibits log	anal comm	Consistently demonstrates  Consistently demonstrates  Consistently demonstrates  Consistently demonstrates
Remains/assists in Rarely demonstrates  Team Participation  Rarely demonstrates  Professional & Ethic	assigned  1  * Demon  1  cal Judgr Follows	strates p  2  ment *Exprogram	n, follows 3 profession 3 xhibits log n policies	anal communication of the second of the seco	Consistently demonstrates  Consistently demonstrates  Consistently demonstrates  Consistently demonstrates
Remains/assists in a Rarely demonstrates  Team Participation  Rarely demonstrates  Professional & Ethican unfamiliar exam.  Rarely demonstrates	assigned  1  * Demon  1  cal Judgr Follows  1	strates p  2  ment *Exprogram  2	n, follows 3 profession 3 exhibits log n policies 3	anal communication of the second of the seco	Consistently demonstrates  unication with other staff/  Consistently demonstrates  ught in making decisions/rg professional conduct, di

Rarely demonstrates

Consistently demonstrates



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PORT	PORTLAND				
COMM	COMMUNITY				
COLLI	EGE		P.O. I	3ox 19000	
0022			Portle	and Oregon	
Mailed 32 Questionnaires to 32 2010 Graduates					
Received 13 Responses					
	RADIOGRAPHY PRO	GRAM ALUMNI	JS QUESTIONN	IAIRE	
EMPLOYMENT					
Are you currently employed as a radiographer?					
	Full-time-2	Part-time-1	On-call- 7	-4 No (skip to question #4)	
2. What type of institution are you employed at?					
	Hospital Hospital	Hospital Cli	nic or	Other	
	500+ bed 200-500 be	ed <200 bed	office		
	-2 -3	-2	-1		

This is the survey sent to graduates 6 months after completing the Program. We compare the outcomes to those of the employer survey to look for

trends and any areas where improvement is needed. (Core Outcome 6 – Self-Reflection) This is an actual summary of the 2010 Outcomes.

3. Have you encountered any job responsibilities that you feel you were inadequately prepared for?
NO- 8 YES- 1 Yes and no. I start IV's at one of the jobs I work at. Starting them on a mannequin arm is very different than doing it on a human being!
But, I have been trained on the job, and becoming good at it.
CONTINUING EDUCATION
4. Since graduation, have you furthered your education? If yes, how?
Yes I am positioning for some Ct exams, and would like to train in CT or Mammography
Yes -7 No -5
-1 Full-time college leading to degree in:
-Radiation Therapy
Part-time college leading to degree in:
-6 Specialization or additional certification in:
-Mammography-X3
-MRI Certification
-СТ
-ACLS Certification
-1 Classes, conferences, self-directed study in Radiography:

### PROGRAM EVALUATION

5. Listed below are the s each of its goals.	tated goals of the PCC Radiog	graphy program. Please evaluate	on a scale of 1 to 4 how	successful you feel the program was in accomplishing
How well did the program	m prepare you to:			
(Goal #1) Utilize effective	e oral and written communic	cation with patients and health car	e personnel.	
-9	-5*			
4	3	2	1	
Very successful			Unsuccessful	
#3 *I think I learned this	at the hospital and not in the	e classroom		
(Goal #2) Provide approp	oriate care that ensures the s	safety, comfort, and ongoing	assessment/response	to the patient's condition.
-11	2			
4	3	2	1	
Very successful			Unsuccessful	
(Goal #3) Apply knowled	ge of anatomy, physiology, a	and pathology to perform radiogra	phic procedures and pro	oduce quality radiographs.
10	3			
4	3	2	1	
Very successful			Unsuccessful	

(Goal #4) Perform the radiography.	duties of an entry-level radiogra	apher, exhibit professional ethic	ical behaviors in the work place and continued growth within the field
12	2		
4	3	2	1
Very successful			Unsuccessful
(Goal #5) Demonstrate	problem-solving skills in regard	I to radiographic quality, patien	nt condition and equipment use.
8	4		
4	3	2	1
Very successful			Unsuccessful
(Goal #6) Operate equi	ipment appropriately.		
-11	-2		
4	3	2	1
Very successful			Unsuccessful
CONTINUING EDUCATI	ON		
6. Please list any grad	luate level coursework you wou	ld like PCC to offer:	
-Phlebotomy for C	Γ, S-Ray; MRI professionals' cou	rse	
-Angiography?			
-Computed Tomog	raphy Certificate		

7. Any other comments?
-Great Program!
-I am so grateful to PCC & the Radiography Program. I am awaiting that perfect job, the one
full -time w/benefits. But each day I work, I love my career & patients/customers. This
is an excellent match for me. I enjoy it everyday!
-No
PROGRAM IMPROVEMENT
8. How could PCC's Radiography program be improved?
Curriculum:
-Cover Skulls sooner so have longer to do exams since they aren't very common.
-Overall I think it is a wonderful program. I fully recommend it. The instructors are
great & have a lot of heart towards Radiography.
-No suggestions, this part is excellent.
-GREAT!
-More practical discussion of selecting techniques
Lab0ratory:
-Audit all of the lab critique answers & correct the errors. I know, huge task, I know.
-Make sure all answers on film critique keys are correct.
-C-Arm to practice & updated equipment.

-Excellent: Wish we had a little more help understanding the skull angles – one on one

- "Y" view shoulder should be taught AP instead of PA Nobody uses PA compared to AP.
- Newer equipment would be nice.
- NEWER EQUIPMENT!

#### Clinical:

- -Would be nice if all clinical had the same/standardized rules & disciplinary procedures
- -Follow one tech around for a whole day, learn from them, not 10 different techs in 1 day.

  It's too confusing; everyone has their own style. It's easier to learn from one person when everything is so new & nerve wracking!:)
- -No suggestions, I think you guys have an excellent program and it was a privilege to be there. Thank you.

#### Other:

-I loved the PCC Program <sup>(2)</sup> Vicki

This form is sent to employers approximately 10 months following graduation and is used to determine how successful new graduates are in their first year of employment.

		PORT	LAND COMMU	JNITY COLLE	EGE
			Radiography l	Program	
DADIOGRAPHY PROGR	AMEMBY OWER	OVECTVONINA.	The same of the sa		
RADIOGRAPHY PROGRA	AM EMPLOYER	QUESTIONNAL	RE:		
<b>GRADUATE DATA</b>					
	, a gr	aduate of the PC	CC Radiography P	rogram class of	:
has given us permission to	ask you to evalua	ate if our progra	က graduates are ၊	meeting your n	eeds.
Length of employment by	you:				
	< 3 months	3 - 6 months	6 mos - 1 year	1 - 2 years	> 2 years
EMPLOYER DATA					
Position of evaluator:	Manager	Lead Technolog	ist Diagnostic	Imaging Coord	linator
2 Type of institution: Ho	osnital Hosnita	al Hospital	Clinic or	Other	

		500+ bed	200-500 bed	<200 bed	office		_					
3. Ar	ea of dep	partment where gra	aduate is emplo	oyed:								
	(Please	check all that appl	y) Diagnostic	Genera	al E.R.	C.T.	Mamm.	M.R.I.	Other			
PROG	RAM EV	ALUATION										
		v are the stated go n accomplishing ea						scale of 1	to 4 hov	v successfu	ıl you feel	l the
How	well did t	he program prepa	re this graduat	e to:								
(Goal	#1) Utiliz	ze effective oral an	d written comr	munication wit	th patients	and hea	lth care pe	rsonnel.				
	4	3		2		1						
Very s	successfu	ıl					Un	successfu	ıl			
(Goal	#2) Prov	ide appropriate ca	re that ensures	the safety, co	omfort, and	ongoing	g ass	sessment/	response	to the pat	tient's cor	ndition.
	4	3		2		1						

very successful			Unsuccesstul	
(Goal #3) Apply kn	owledge of anatomy, phys	siology, and pathology to perfo	form radiographic procedures and produce quality ra	adiographs.
4	3	2	1	
Very successful			Unsuccessful	
(Goal #4) Perform within the field of I		el radiographer, exhibit profes	ssional ethical behaviors in the work place and conti	nued growth
4	3	2	1	
Very successful			Unsuccessful	
(Goal #5) Demons	trate problem-solving skills	s in regard to exposure factors	s, radiographic quality, patient condition and equipr	nent use.
4	3	2	1	
Very successful			Unsuccessful	

(Goal #6) Operate equipment appropriately and participate in QA programs.

4	3	2	1	
Very successful				Unsuccessful
	ponsibilities that you feel this g	-	uately prepar	ed for?
CONTINUING EDUCATIO	N			
6 Please list any gradua	ate level coursework you would	d like PCC to offer: _		
7. Any other comments?	?			

THANK YOU FOR COMPLETING AND RETURNING THIS SURVEY IN ORDER THAT OUR GRADUATES MAY BETTER MEET YOUR NEEDS.

This rubric is used by the instructor to evaluate written papers and is also a guide for the students to understand the criteria that is used to determine their grade.

### Evaluation Criteria RAD 106

	1 POINT	3 POINTS	5 POINTS
	Gaps in information	Language is ordinary or	Uses words that give clear
Language Use	Words don't fit text	overly technical	picture of topic
	Limited vocabulary	Limited details	No slang
	Devoid of details	Paper doesn't expand knowledge, more of a	Details are interesting, important, informative
	Slang used	review	Related to topic selected
	Difficult to detect meaning		
	No introduction or conclusion	Order logical most of time	Material orderly & logical
Organization		Connections not always	Has introduction, builds to
	Lacks direction	clear, transitions not smooth	important point
	Weak connections and	Smooth	Sense of resolution
	transitions		Transitions are smooth
	Paper lacks central idea	Supporting details skimpy	Develops complex ideas with
	Sketchy details	or too general	well supported details
		Tries to cover too much	Correct placement of

Ideas & Content	Lack of information  Message unclear  Difficult to follow	Relevance of illustrations not included in text	illustrations  Writing is specific
Educational Value	Unsupported statements  References minimal  Nominal topic content  Citing of content lacking  Inaccurate content	Too many quotes  More references required  Not all areas cited correctly  No new perspective	Incorporates pertinent literature  References appropriate to topic and length  Cites correctly  Original interpretation or new perspective
Mechanics	Spelling errors common  Paragraphs wrong  Punctuation problems  Grammar problems  No proof reading  Format not followed	Some mistakes  Few problems with grammar, punctuation  Some spelling errors  Big problems fixed, just a few small ones	Paper easy to read  Grammar, spelling, and punctuation well done  Paragraphs correct  Format followed

The evaluation criteria above gives an idea of what would constitute poor, average and excellent term papers. Points will be scored from 1 to 5 in each area.